

1 What is claimed is:

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3 1. A process for producing low pour point hydrocarbon products having
4 an initial boiling point above about 150 degrees C from a Fischer-
5 Tropsch plant which comprises:

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7 (a) recovering a feedstock comprising C₅ plus syncrude from a
8 Fischer-Tropsch plant;

9 (b) dewaxing the C₅ plus syncrude feedstock in a catalytic dewaxing
10 zone by contacting the C₅ plus syncrude feedstock with a
11 dewaxing catalyst under dewaxing conditions, whereby a C₅
12 plus intermediate is produced having a lowered pour point
13 relative to the C₅ plus syncrude feedstock;

14 (c) hydrofinishing the C₅ plus intermediate in a hydrofinishing zone
15 under hydrofinishing conditions, whereby a UV stabilized C₅ plus
16 product is produced; and

17 (d) separately collecting from the UV stabilized C₅ plus product a
18 low pour point hydrocarbon product having an initial boiling point
19 above about 150 degrees C.

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21 2. The process of claim 1 wherein a low pour point diesel and a
22 lubricating base oil are separately recovered from the UV stabilized C₅
23 plus product.

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25 3. The process of claim 1 wherein the dewaxing catalyst of step (b)
26 contains at least one active metal having hydrogenation activity.

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28 4. The process of claim 3 wherein the dewaxing catalyst comprises an
29 intermediate pore size SAPO.

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31 5. The process of claim 4 wherein the dewaxing catalyst comprises at
32 least one SAPO selected from the group consisting of SAPO-11,
33 SAPO-31, and SAPO-41.

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- 1 6. The process of claim 5 wherein the dewaxing catalyst comprises
2 SAPO-11.
3
- 4 7. The process of claim 3 wherein the dewaxing catalyst comprises an
5 intermediate pore size zeolite.
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- 7 8. The process of claim 7 wherein the dewaxing catalyst comprises at
8 least one zeolite selected from the group consisting of SSZ-32, ZSM-
9 22, ZSM-23, ZSM-35, and ZSM-48.
10
- 11 9. The process of claim 8 wherein an ultra high VI, low pour point
12 lubricating base oil is collected in step (d).
13
- 14 10. The process of claim 3 wherein at least one of the active metals is
15 selected from the group consisting of platinum and palladium.
16
- 17 11. The process of claim 10 wherein at least one of the active metals is
18 platinum.
19
- 20 12. The process of claim 3 wherein the dewaxing catalyst is a non-zeolitic
21 molecular sieve and the active metal is added by non-aqueous
22 addition.
23
- 24 13. The process of claim 1 wherein the hydrofinishing conditions of step (c)
25 comprise a pressure of between about 200 psig to about 3000 psig.
26
- 27 14. The process of claim 13 wherein the hydrofinishing conditions
28 comprise a pressure of between about 500 psig and about 2000 psig.
29
- 30 15. A process for producing low pour point syncrude products having an
31 initial boiling point above about 120 degrees C from a Fischer-Tropsch
32 plant which comprises:
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- 1 (a) recovering a feedstock comprising C₅ plus syncrude from a
2 Fischer-Tropsch plant;
- 3 (b) dewaxing the C₅ plus hydrocarbon feedstock in a
4 hydroisomerization zone by contacting the C₅ plus syncrude
5 feedstock with a hydroisomerization catalyst under
6 hydroisomerization conditions, whereby an isomerized C₅ plus
7 intermediate is produced having a lowered pour point relative to
8 the C₅ plus syncrude feedstock;
- 9 (c) hydrofinishing the isomerized C₅ plus intermediate in a
10 hydrofinishing zone under hydrofinishing conditions, whereby a
11 UV stabilized C₅ plus product is produced; and
- 12 (d) separately collecting from the UV stabilized C₅ plus product a
13 low pour point diesel product and a lubricating base oil product.
14
- 15 16. The process of claim 15 wherein the hydroisomerization catalyst
16 comprises an intermediate pore size SAPO and at least one
17 hydrogenation component comprising an active metal having
18 hydrogenation activity.
19
- 20 17. The process of claim 16 wherein the hydroisomerization catalyst
21 comprises at least one SAPO selected from the group consisting of
22 SAPO-11, SAPO-31, and SAPO-41.
23
- 24 18. The process of claim 17 wherein the hydroisomerization catalyst
25 comprises SAPO-11.
26
- 27 19. The process of claim 16 wherein at least one of the active metal is
28 selected from the group consisting of platinum and palladium.
29
- 30 20. The process of claim 19 wherein at least one of the active metal is
31 platinum.
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- 33 21. The process of claim 16 wherein the active metal is added to the
34 hydroisomerization catalyst by non-aqueous addition.

- 1
- 2 22. The process of claim 15 wherein the hydrofinishing conditions of step
- 3 (c) comprise a pressure of between about 200 psig to about 3000 psig.
- 4
- 5 23. The process of claim 22 wherein the hydrofinishing conditions
- 6 comprise a pressure of between about 500 psig and about 2000 psig.
- 7
- 8 24. The process of claim 16 wherein the cut-point for the separation of the
- 9 low pour point diesel product from the lubricating base oil product is
- 10 pre-selected to maximize the yield of the low pour point diesel product.
- 11
- 12 25. A process for producing ultra high VI, low pour point lubricating base oil
- 13 product from a Fischer-Tropsch plant which comprises:
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- 15 (a) recovering a feedstock comprising C₅ plus syncrude from a
- 16 Fischer-Tropsch plant;
- 17 (b) dewaxing the C₅ plus syncrude feedstock in a catalytic
- 18 hydrodewaxing zone by contacting the C₅ plus hydrocarbon
- 19 feedstock with hydroisomerization dewaxing catalyst comprising
- 20 an intermediate pore size zeolite and at least one metal having
- 21 hydrogenation activity, said dewaxing being carried out under
- 22 hydrodewaxing conditions selected to produce an C₅ plus
- 23 intermediate having a lowered pour point relative to the C₅ plus
- 24 syncrude feedstock;
- 25 (c) hydrofinishing the C₅ plus intermediate in a hydrofinishing zone
- 26 under hydrofinishing conditions, whereby a UV stabilized C₅ plus
- 27 product is produced; and
- 28 (d) separately collecting from the UV stabilized C₅ plus product an
- 29 ultra high VI, low pour point lubricating base oil product.
- 30
- 31 26. The process of claim 25 wherein the intermediate pore size zeolite is
- 32 also characterized by having one-dimensional pores one-dimensional
- 33 pores.
- 34

- 1 27. The process of claim 25 wherein the intermediate pore size zeolite
2 having one dimensional pores comprises at least one zeolite selected
3 from the group consisting of SSZ-32, ZSM-22, and ZSM-23.
4
- 5 28. The process of claim 25 wherein at least one of the active metal is
6 selected from the group consisting of platinum and palladium.
7
- 8 29. The process of claim 28 wherein at least one of the active metal is
9 platinum.
10
- 11 30. The process of claim 25 wherein the hydrofinishing conditions of step
12 (c) comprise a pressure of between about 200 psig to about 3000 psig.
13
- 14 31. The process of claim 30 wherein the hydrofinishing conditions
15 comprise a pressure of between about 500 psig and about 2000 psig.